



Can we create sustainable, resilient and healthy communities, or do they just happen?

Prof Simon Kingham

Kaitohutohu Matua Pūtaiao | Chief Science Advisor, Te Manatū Waka | Ministry of Transport

Ahorangi | Professor, Te Whare Wānanga o Waitaha | University of Canterbury

Context and background

- Chief Science Advisor, Ministry of Transport
 - 2 days a week
 - Secondment from UC
 - provide advice to the Ministry on areas that would benefit from scientific input
 - champions the Ministry's use of evidence throughout the policy process and its development of wider sector strategies.
- Professor of Geography, University of Canterbury
 - 3 days a week
 - Teaching and research

Context and background

UC **GEOHEALTH LABORATORY**



Resilient Urban Futures



National
Science
Challenges

**BUILDING BETTER
HOMES, TOWNS
AND CITIES**

Ko Ngā wā Kainga hei
whakamāhorahora

**HEALTHIER
LIVES**

He Oranga Hauora

National
Science
Challenges



Structure

- What is a Sustainable, Resilient, Healthy Community?
- How we do get there?
 - do they just happen?
- Outcomes of Sustainable, Resilient, Healthy Communities
- The future

What is a Sustainable, Resilient, Healthy Community?

What is a Sustainable, Resilient, Healthy Community

- Low emissions
 - Green house gases
 - Air pollutants
- Resilient to shocks and pressures
 - Disasters (earthquakes, tsunamis, pandemics)
 - Climate change
- Healthy, happy people
 - Physical health e.g. obesity, heart disease, respiratory disease
 - Mental health
- Equitable?
 - Including meeting indigenous (*Treaty of Waitangi*) obligations

How we do get there

- Planned or Random?
- Accident or Design?

Urban form

- Well defined or understood boundaries
 - Clarity of the spatial area

Tenure and residency – becoming a local

- Transience / mobility of renting negatively associated with sense of community
- Longevity of tenure provides home stability
- Long term renters had connection with neighbours

It's the churn in tenancy that is the issue.

Home and place

- Threshold spaces – verandas and porches
- New subdivisions
 - garages and fences, lack of large trees, lack of walkability & local amenity
- Home (and gardens) inextricably linked to place.
- Fences!

“It can take a long time to get to the shops unlike the places with fences and garages”

“I just wonder how lonely some people are behind their private spaces”

Street morphology

- Intimate streets – cul-de-sacs, laneways, back sections
- Noticeable differences among street types in fostering social connections
- Shift to more private spaces – automatic garage door openers and fences

“I really think the type of street is important, the cul-de-sac behind us has been great for us”

“Our street is wide so we don’t know each other”

“People get into their cars and go to work and then come home press the little button for their garage door and they go inside to their private spaces never once turning around”

Back lanes as recreational areas

- Popular Now in Metro**
- CTM begins installing new toilet machines
 - Giving it my best
 - High price to pay for serenity
 - Dr Fattman: Non-life threatening cases should avoid A&E units at hospitals
 - Hot emperors' favourite eater

THE IPOH City Council is mulling the idea of converting back lanes into recreational areas, similar to what is being done in many other countries.

Mayor Datuk Zamri Man said the council is studying the suitable locations at Ipoh's Old and New Town areas.

He said either the back lanes could be converted to recreational areas or made into parking lots.

"Since we have limited places to construct recreational areas within the city, we need to enhance and upgrade the existing ones."



Gardening? It's right up our alley! Community transforms Victorian passageway behind homes into oasis of greenery

- Once-dingy lane in Middlesbrough now haven of hanging baskets, trellises and trees with apples and pears
- Mavis Arnold has helped turn lane into a wonderland, while neighbouring alleys are still scruffy and rundown
- Alley was well-kept in 1960s but as the decades dragged on residents began to dump their rubbish on cobbles

back lane project - OUR LOST SPACE

WINNER: GRAND PRIZE WINNER



NATIONAL POST

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TRENDING Brexit | Blue Jays | Trump | PPSSR | Loto Max

Forgotten 'country lane' experiment could be answer to Vancouver's desire for more green space

BRIAN HUTCHINGS | July 2, 2013 5:10 PM EDT
More from Brian Hutchings | @brianhutchings



Walkable – design

- Design: safe, attractive, connected

“Because walking somewhere you see people and that is really important to us to see people and have that eye contact and being human together”

“Because you walk past you know your neighbours so I know most of the people on my side of the street”

“We have Micky the dog, I meet others with dogs, the bumping into people is so important, I think it is what I like and that is what I connect with”

“If you have to get in your car it’s not local”

Walkable – proximity

- Distance: local amenity

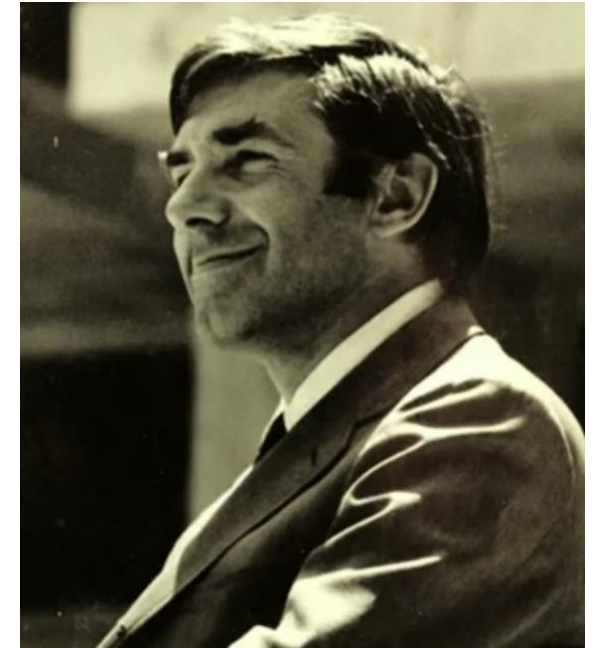
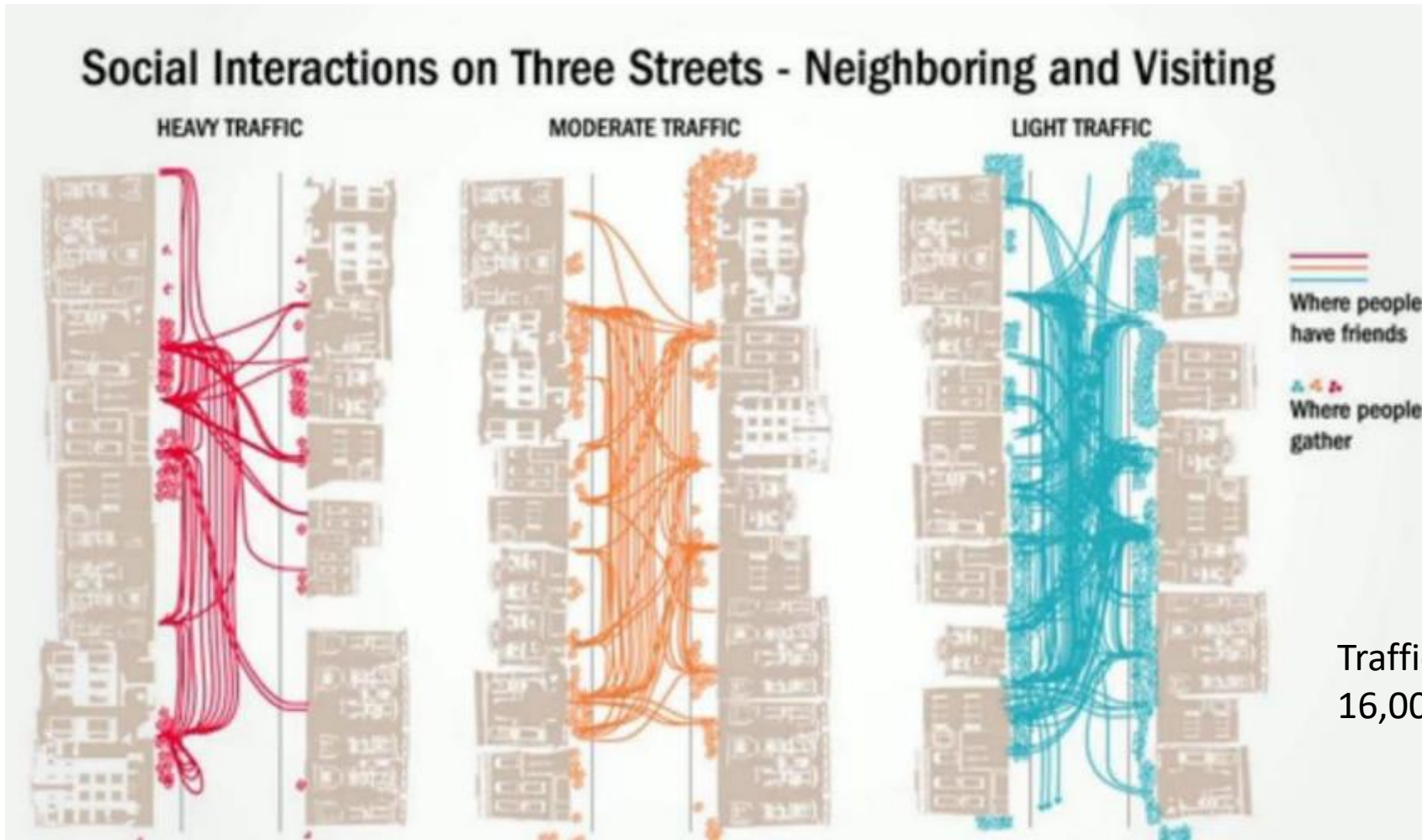
“Isn’t that funny how we don’t have a name for them, given how important they [local shops] are to everyone?”

“I like places where people are at rather than places where people have to go”

Traffic and community



Traffic and community



Donald Appleyard

Traffic levels:
16,000, 8,000 and 2,000 vehs per day

LIGHT (< 500 vpd)



5.1 average connections

"We have great neighbours and live in a safe street"
"I enjoy talking with my neighbours"

HEAVY (8,400-14,000 vpd)



2.1 average connections

"My street is a car thoroughfare"
"Lived here over 35 years, a decline in people talking to neighbours and children playing"

Re-working Appleyard in a low density environment: An exploration of the impacts of motorised traffic volume on street livability in Christchurch, New Zealand.

Wiki J., Kingham S., and Banwell K.

World Transport Policy and Practice
Volume 24.1 Mar 2018

MODERATE (1400-2500 vpd)



5.9 average connections

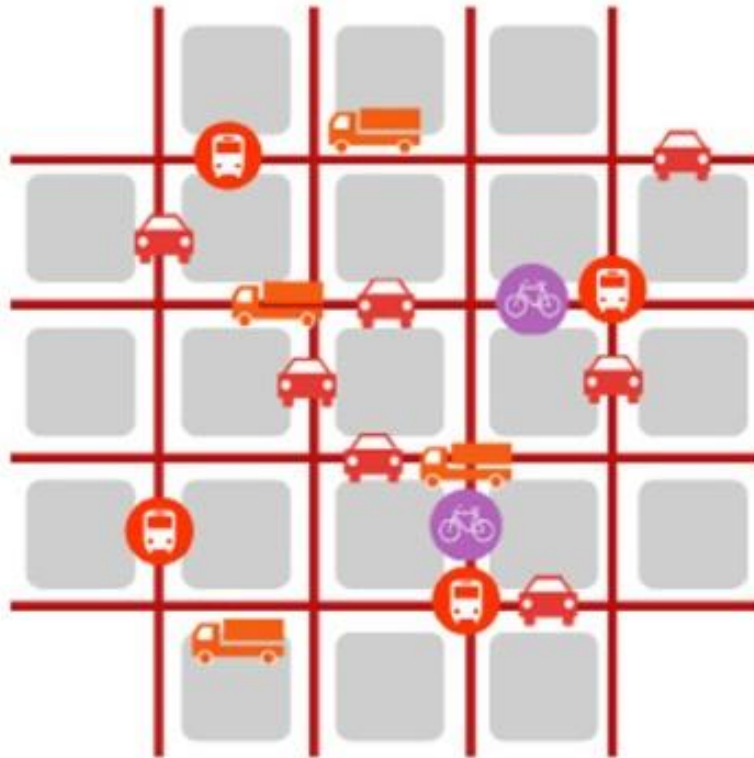
"Most people get out and about and talk on the street"
"Family-orientated and friendly"



Ministry of Transport
TE MANATŪ WAKA





Barcelona Superblocks





Current Model



Superblocks Model



-  PUBLIC TRANSPORT NETWORK
-  BICYCLES MAIN NETWORK (BIKE LANE)
-  BICYCLES SIGNPOSTS (REVERSE DIRECTION)
-  FREE PASSAGE OF BICYCLES

-  PRIVATE VEHICLE PASSING
-  RESIDENTS VEHICLES
-  URBAN SERVICES AND EMERGENCY
-  DUM CARRIERS

-  DUM PROXIMITY AREA
-  ACCESS CONTROL
-  BASIC TRAFFIC NETWORK
-  SINGLE PLATFORM (PEDESTRIANS PRIORITY)

Barcelona Superblocks



Barcelona Superblocks

IMAGE BEFORE



IMAGE AFTER



Shared spaces



Vathorst, NL



Shared spaces

Heidelberg Bahnstadt, Germany



Shared spaces

Rieselfeld, Freiburg, Germany



Not new



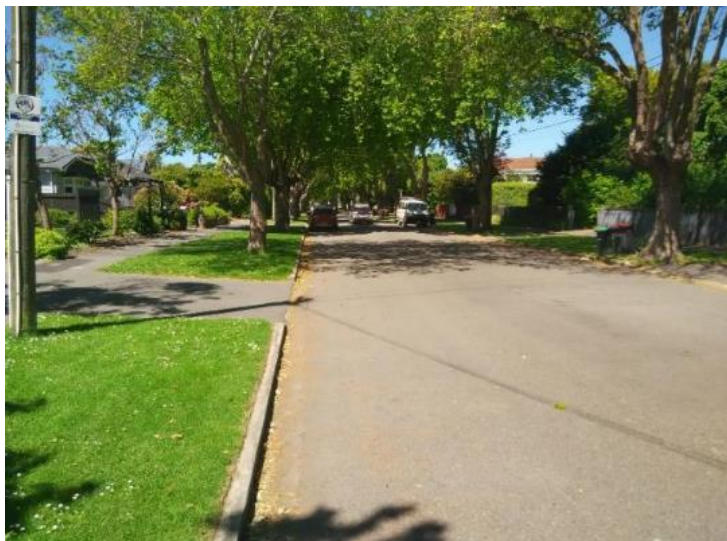
sport

In NZ?

With through traffic



And without!





Contents lists available at [ScienceDirect](#)

Journal of Transport & Health

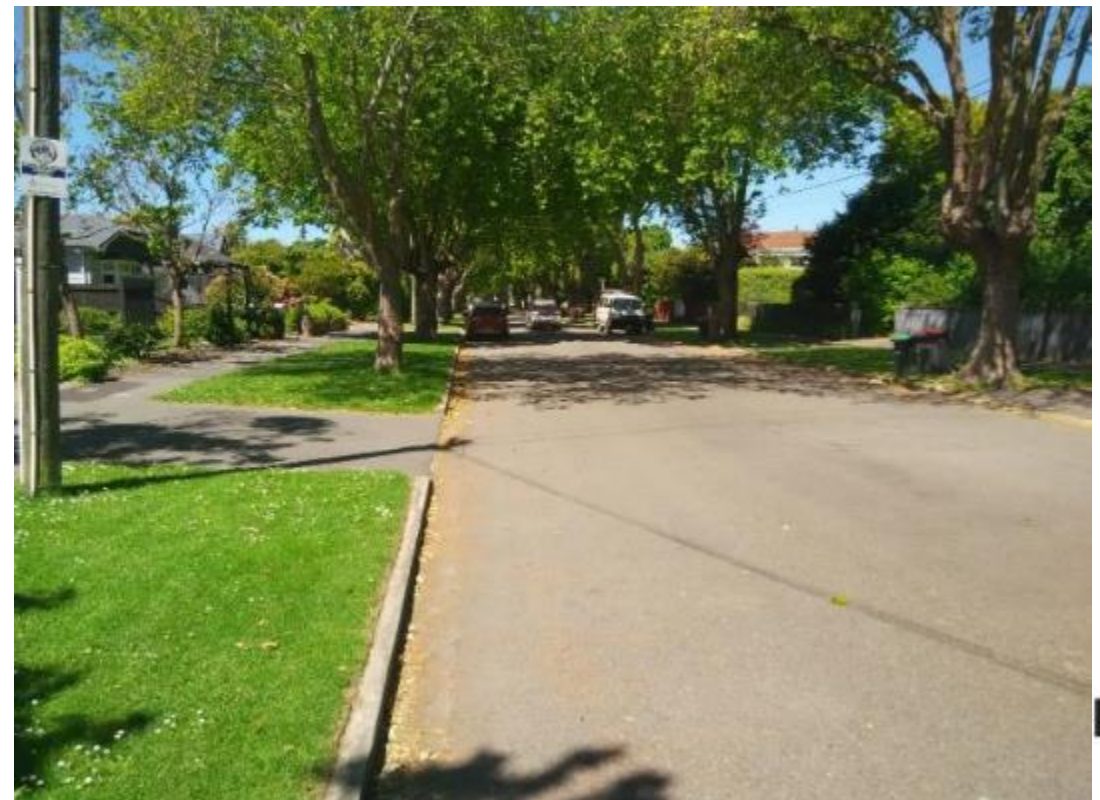
journal homepage: <http://www.elsevier.com/locate/jth>

Streets for transport and health: The opportunity of a temporary road closure for neighbourhood connection, activity and wellbeing

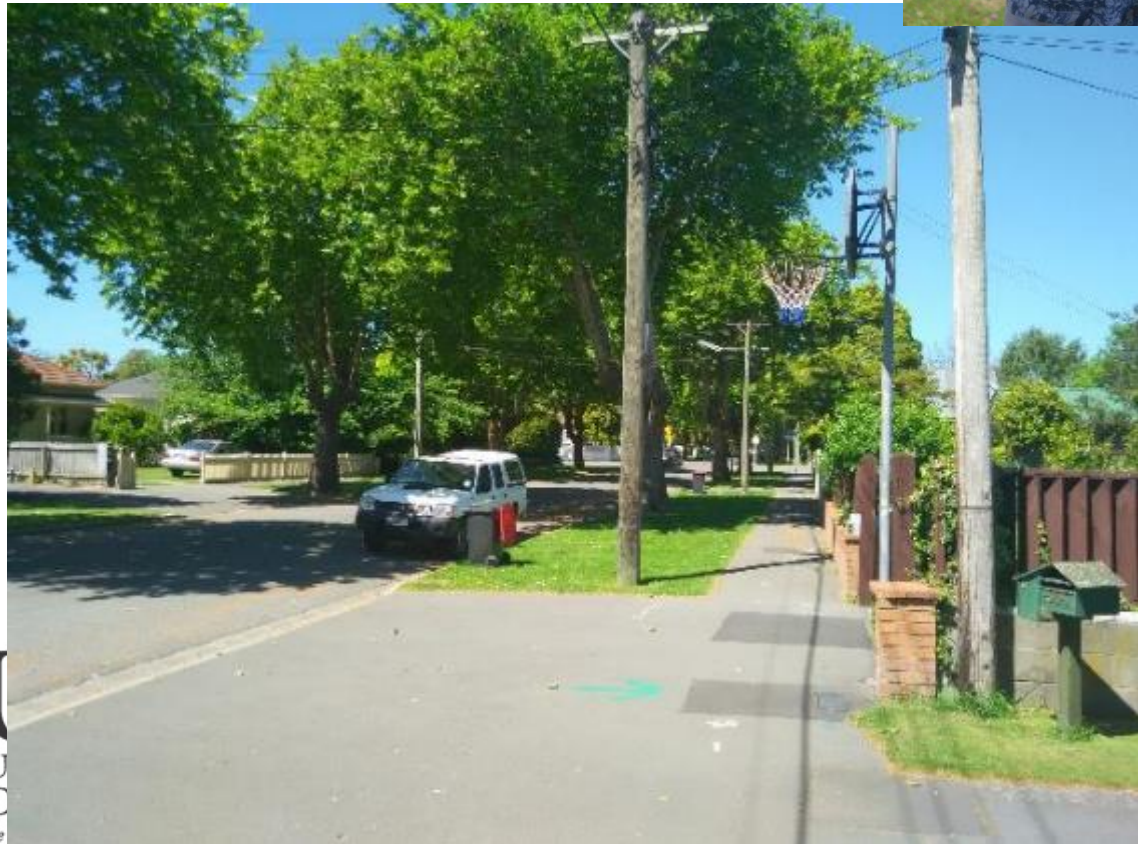
Simon Kingham^{a,*}, Angela Curl^b, Karen Banwell^a

“Residents value the community benefits restricting vehicle access to streets can afford, and these outweigh than the disbenefits of any transport inconvenience this may come with”

Dilemma 1



Dilemma 2



But!

Street Smarts: Should Stapleton Kids Be Playing in Our Streets?

Staff Writer



A recent hot topic on [Next Door Stapleton](#) was the issue of kids playing in Stapleton streets. “It starts to really slow down traffic,” says resident Josh Meyers. “I mean, you have to drive about 10 miles per hour in fear a kid is going to dart out in front of you. It can sometimes add anywhere from 30 to 90 seconds to a trip.” Other

parents are less worried about the drive time, but worried about the inherent danger of kids playing in the busy [Stapleton streets](#). “We’re not living in a suburb, after all,” says Stapleton parent Allie Morgan. “We live in Denver, in what is considered an urban community. Urban communities have lots of traffic, among other dangerous things. People need to get their kids out of the streets. If anything, have them play in the [alleys](#).”

<http://stapletonion.com/posts/street-smarts-should-stapleton-kids-be-playing-in-our-streets/>

Natural and green

- Intrinsic quality of place
- Personal significance
- Natural places to be alone, meander, walk the dog, meet others
- Trees as features of the local environment; noted where absent

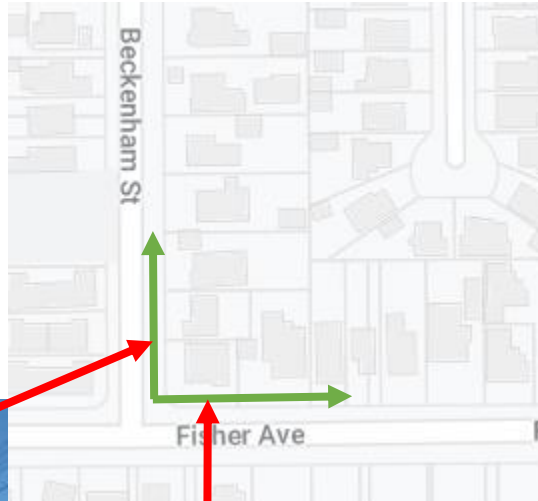


“Hagley [park] is soul food for me, the natural place, it is my replenishing time”

“My trees, I know them by name”

“I walk by the river everyday as I do my morning perambulation that cuts through a couple of parks that are a vital part of my life”

Green



Christchurch

RESEARCH ARTICLE

Open Access

Associations between neighbourhood environmental characteristics and obesity and related behaviours among adult New Zealanders

Amber L Pearson^{1*}, Graham Bentham², Peter Day³ and Simon Kingham³

Table 4 Association between overweight, obesity, overweight+obesity and environmental factors adjusted for socio-demographic and other environmental factors

Category 1

Category 2

Category 3

Category 4

Category 5

RESULTS:

We found that increased neighbourhood deprivation and decreased access to neighbourhood greenspace were both significantly associated with increased odds of overweight and/or obesity.

Accessibility of food outlets	NZdep	Reference	0.93	0.74,1.17	0.537	1.04	0.82,1.33	0.749	1.18	0.93,1.51	0.177	1.56	1.20,2.04	0.001	0.001
	Greenspace	Reference	1.00	0.79,1.26	0.521	0.97	0.77,1.22	0.797	1.30	1.02,1.65	0.032	1.42	1.08,1.87	0.012	0.007
	Foodshop	Reference	0.75	0.61,0.94	0.010	0.90	0.73,1.12	0.343	0.79	0.61,1.04	0.088	0.67	0.45,0.99	0.046	0.137
	Gym/pool	Reference	0.91	0.74,1.12	0.375	1.23	0.98,1.55	0.073	0.94	0.68,1.30	0.704	1.18	0.83,1.68	0.365	0.143
	Active travel	Reference	1.15	0.90,1.48	0.269	1.16	0.88,1.54	0.291	1.10	0.84,1.46	0.485	0.90	0.67,1.21	0.497	0.314
Accessibility of sports/leisure facilities	Overweight+obesity														
	Urban/rural	Reference	0.93	0.74,1.18	0.575	1.13	0.82,1.56	0.460	1.15	0.80,1.65	0.463				0.525
Percentage active transport to work	NZdep	Reference	1.09	0.91,1.31	0.328	1.06	0.88,1.28	0.547	1.17	0.97,1.42	0.109	1.43	1.14,1.78	0.002	0.004
	Greenspace	Reference	1.23	1.03,1.47	0.023	1.08	0.90,1.29	0.433	1.34	1.11,1.61	0.002	1.39	1.10,1.75	0.006	0.005
	Foodshop	Reference	0.88	0.74,1.04	0.128	0.94	0.79,1.11	0.437	0.92	0.74,1.14	0.444	0.74	0.53,1.03	0.079	0.320
	Gym/pool	Reference	0.96	0.81,1.14	0.675	1.11	0.93,1.33	0.247	1.07	0.83,1.37	0.598	1.11	0.84,1.48	0.455	0.217
	Active travel	Reference	1.09	0.89,1.32	0.401	1.12	0.90,1.39	0.313	1.10	0.89,1.36	0.379	0.91	0.73,1.15	0.428	0.315

UC

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Note: Categories: Urban/rural: 1 = Main urban area; 2 = Secondary urban area; 3 = Minor urban area; and 4 = Rural area.
Environmental variables: quintiles (1 = best access, 5 = worst access); Deprivation (NZdep) (1 = least deprived, 5 = most deprived).
All bolded values are statistically significant at the 0.05 level.

Greenspace

PUBLIC HEALTH 127 (2013) 1005–1011



ELSEVIER

Available online at www.sciencedirect.com

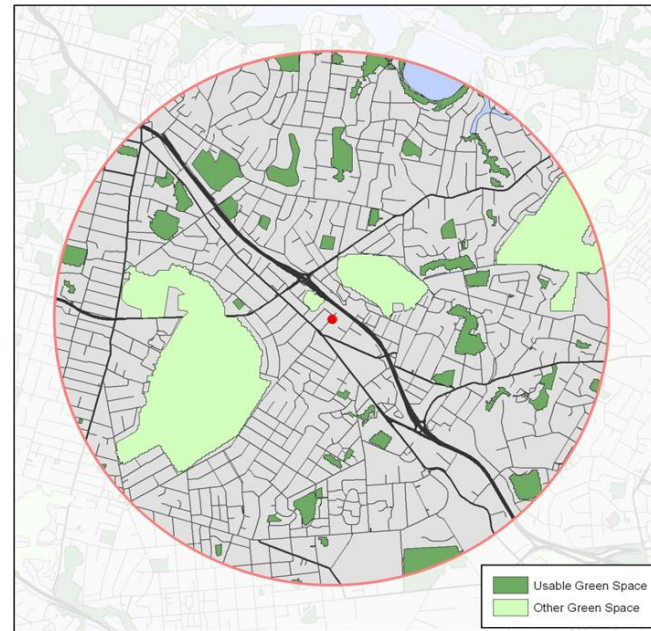
Public Health

journal homepage: www.elsevier.com/puhe

Original Research

An ecological study investigating the association between access to urban green space and mental health

D. Nutsford^{a,*}, A.L. Pearson^b, S. Kingham^a



Conclusion: This study found that decreased distance to useable green space and increased proportion of green space within the larger neighbourhood were associated with decreased anxiety/mood disorder treatment counts in an urban environment. This suggests the



Bluespace



Bluespace

Health & Place 39 (2016) 70–78



Contents lists available at ScienceDirect

Health & Place

journal homepage: www.elsevier.com/locate/healthplace

Residential exposure to visible blue space (but not green space) associated with lower psychological distress in a capital city

Daniel Nutsford^a, Amber L. Pearson^{b,c,*}, Simon Kingham^a, Femke Reitsma^a

5. Conclusion

This study, in the capital city of New Zealand, identified an association between increased views of blue space and decreased psychological distress while adjusting for covariates. In addition to



Fig. 1. Distribution of natural environments throughout Wellington City and the greater region.

Alcohol outlets

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NEW ZEALAND / REGIONAL

Communities fight liquor outlet numbers

12:30 pm on 27 January 2015

Share this



Communities in south Auckland are mobilising to fight against the number of places allowed to sell alcohol.

The odds are stacked against communities in the fight over alcohol outlets

David Hawke • 05:00, Aug 19 2019



Alcohol outlets



Contents lists available at [ScienceDirect](#)

Health and Place

journal homepage: <http://www.elsevier.com/locate/healthplace>

Close proximity to alcohol outlets is associated with increased crime and hazardous drinking: Pooled nationally representative data from New Zealand

M. Hobbs^{a,b,*}, L. Marek^a, J. Wiki^a, M. Campbell^{a,c}, B.Y. Deng^b, H. Sharpe^d, J. McCarthy^e, S. Kingham^{a,c}

Close proximity to alcohol outlets is associated with increased serious violent crime in New Zealand

Abstract

Objective: To examine the association between geographic access to alcohol

Peter Day, Gregory Breetzke, Simon Kingham, Malcolm Campbell

GeoHealth Laboratory, Department of Geography, University of Canterbury, New Zealand

AUSTRALIAN AND NEW ZEALAND JOURNAL OF PUBLIC HEALTH

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2012 VOL. 36 NO. 1

ort

Health services



Health facilities nearby is good

e.g. “40 min drive time from an ED is the threshold between good and poor accessibility”



Social Science & Medicine

Volume 179, April 2017, Pages 91-96



New Zealand Healthline call data used to measure the effect of travel time on the use of the emergency department

Edward Griffin ^a , John P. McCarthy ^b, Fiona Thomas ^b, Simon Kingham ^b

Gathering places

- Local places of *anticipated/planned* interaction
- Places for purposeful social interaction
- Pubs, cafes, community houses, libraries (multiple use), pools, parks

“It’s hard for people to engage with each other when you don’t have a meeting place to come together”



Bumping places

- Local and linked to walkability
- Places of *accidental/unplanned* interaction
- Streets, primary schools, local natural greenspaces and parks, community facilities, local shops, street furniture



*The school was the only **bumping** place for Phillipstown and then the Ministry closed it.... The Ministry did not see the school as a community hub or the importance for the community*

*Schools pop up constantly as **bumping** places for mums and sometimes dads too*
*Yes **bumping** into people is so important I think is what I like and that is what I connect with*



Bumping spaces



Vancouver (Simon Kingham)

Bumping spaces

Before



After



Community hubs – primary schools

“Schools pop up constantly as bumping places for mums and sometimes dads too”

“They are so much the hub for communities, they are so valuable and my bias of coming into this is having smaller community schools”

“The school was the only bumping place for Phillipstown and then the Ministry closed it.... The Ministry did not see the school as a community hub or the importance for the community”

“Closing schools affects more than the school, it affects the whole community”



What's going on in our community?

- <https://www.wellconnectednz.org/>



[ABOUT THE PROJECT](#)

[OUR PEOPLE](#)

[BROADCASTS](#)

[CONTACT US](#)



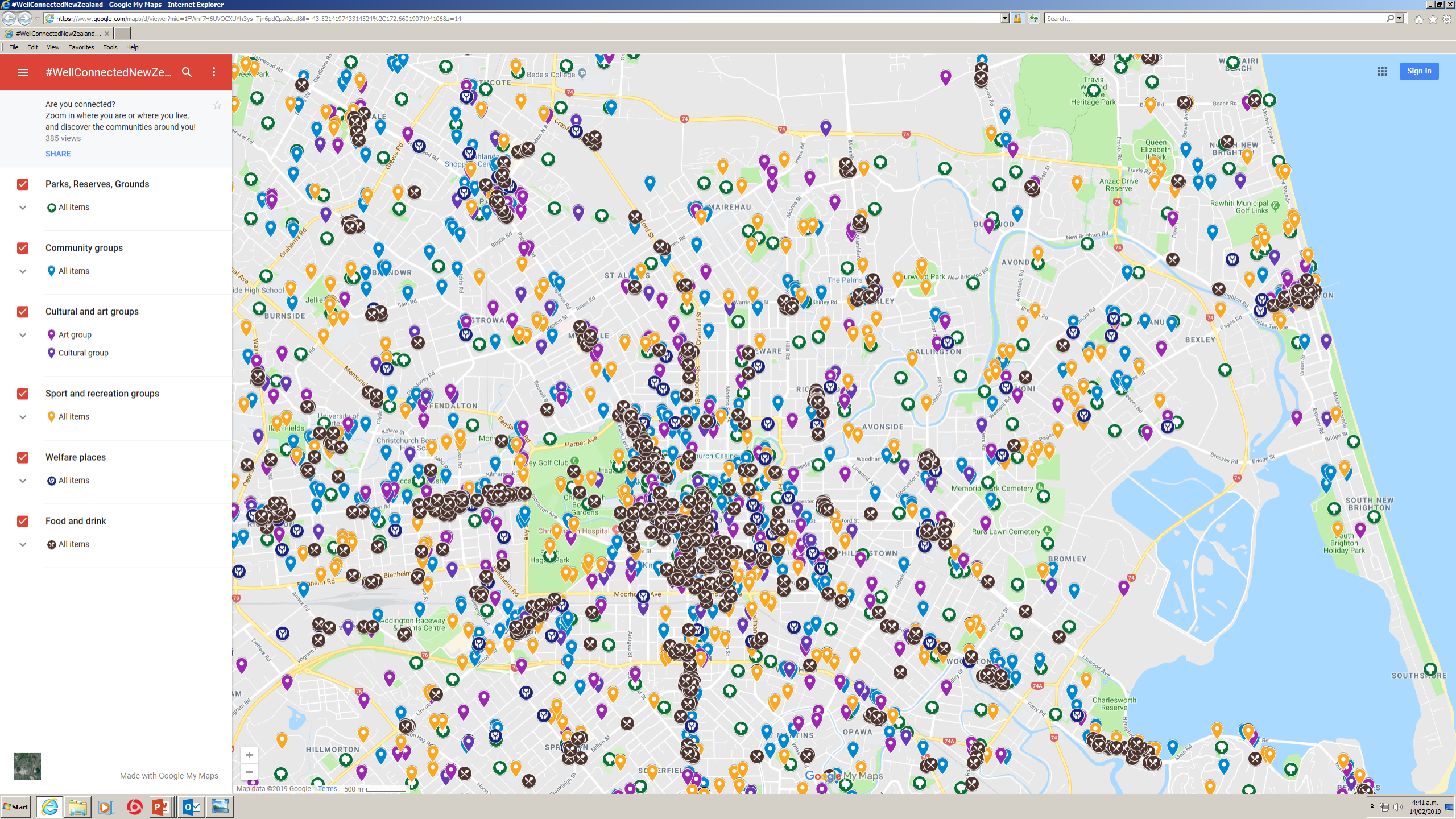
The Weaving Together of the People

New community map of Christchurch live now!
Click the map to check it out →

Something missing from the map?
[Click here to let us know](#)

Do you need help with the map?
[Click here for an instructional video](#)







Pathways to urban health and well-being: measuring and modelling of community services' in a medium size city

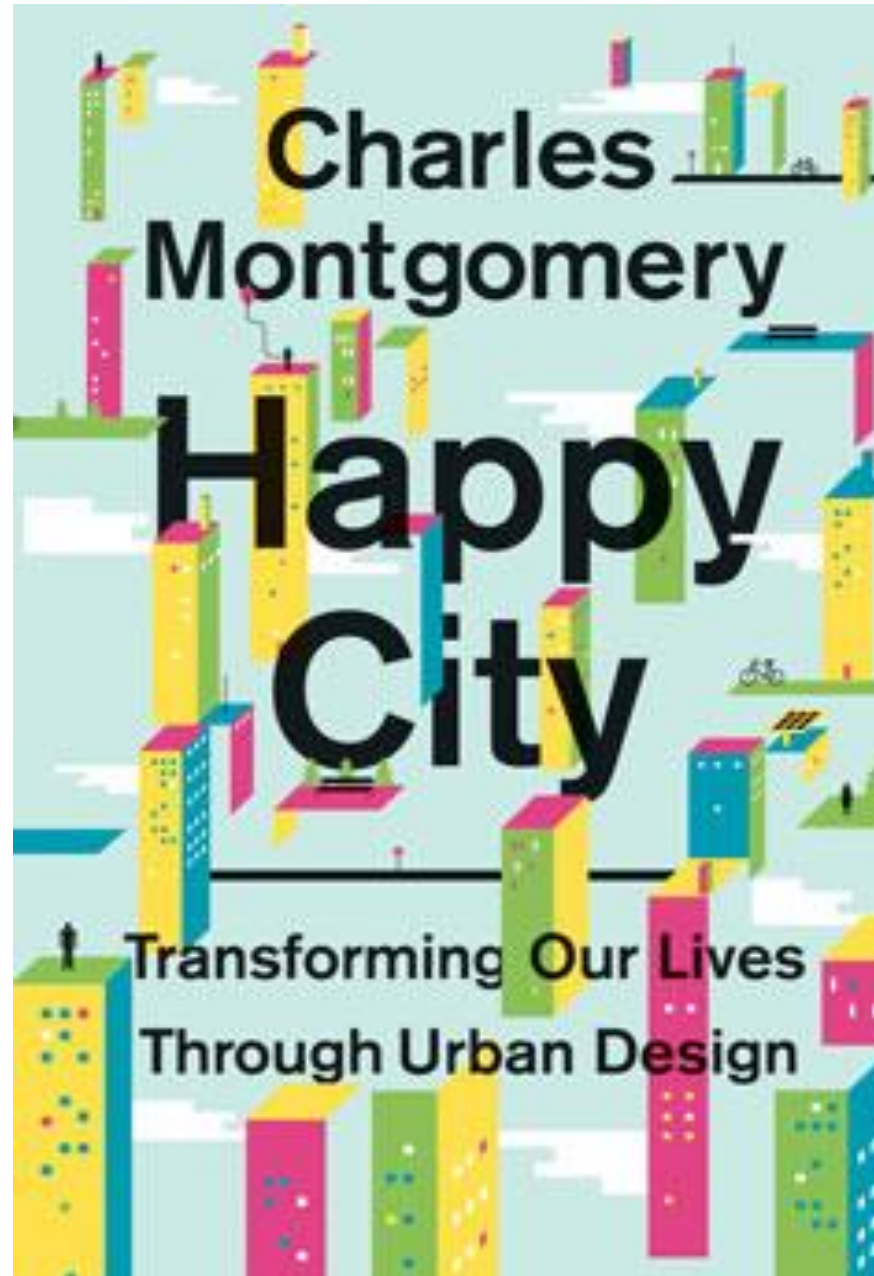
Clémence Vannier,¹ Malcolm Campbell,² Simon Kingham²

¹*GeoHealth Laboratory, University of Canterbury, Christchurch, New Zealand*

²*Department of Geography, University of Canterbury, Christchurch, New Zealand*

*Our results demonstrate that overall, **the majority of neighbourhoods in Christchurch benefit from a high level of accessibility** to almost all the services; but with an urban-rural gradient (the further away from the centre, the less services are available, as is expected). The noticeable exception to this trend, is that the **more deprived eastern suburbs have poorer accessibility**, suggesting **social inequity in accessibility**.*

What are Sustainable, Resilient, Healthy Communities?



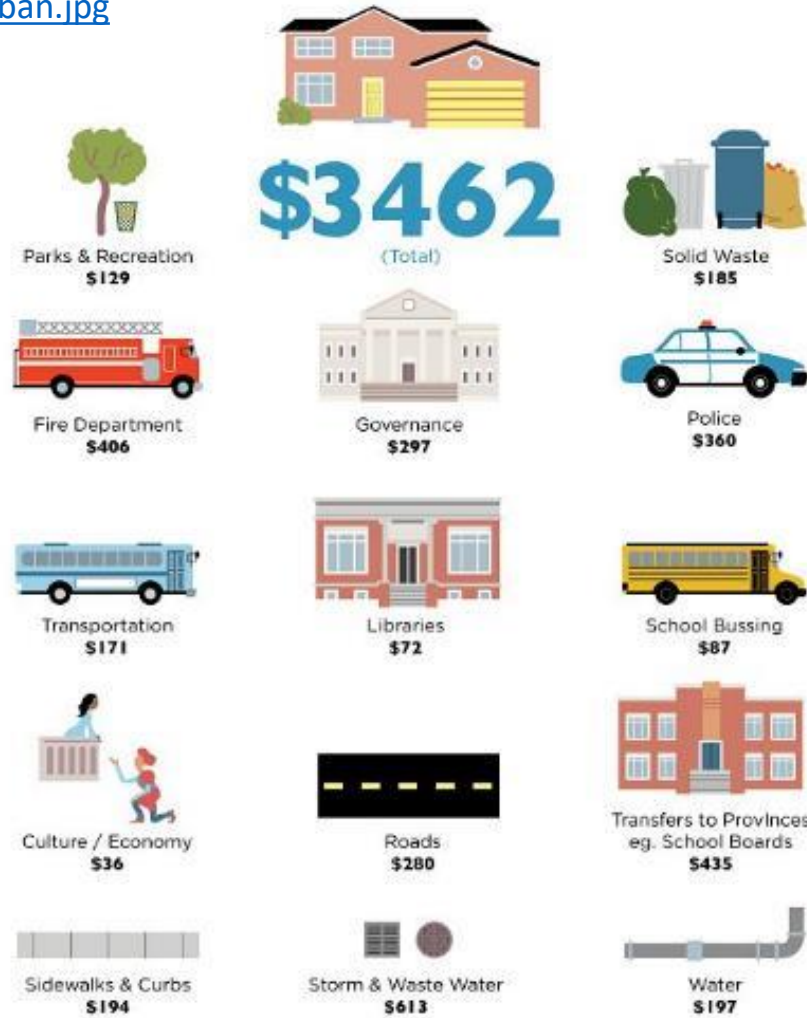
Outcomes of Sustainable, Resilient, Healthy Communities

- Clean air
- Increase community resilience
- Saves on infrastructure costs

<https://i0.wp.com/usa.streetsblog.org/wp-content/uploads/sites/5/2015/03/sprawlurban.jpg>

Suburban

City's Annual Cost, per Household



SP Sustainable Prosperity

For more data and more reports, visit thecostofsprawl.com
Data based on Halifax Regional Municipality

Urban

City's Annual Cost, per Household



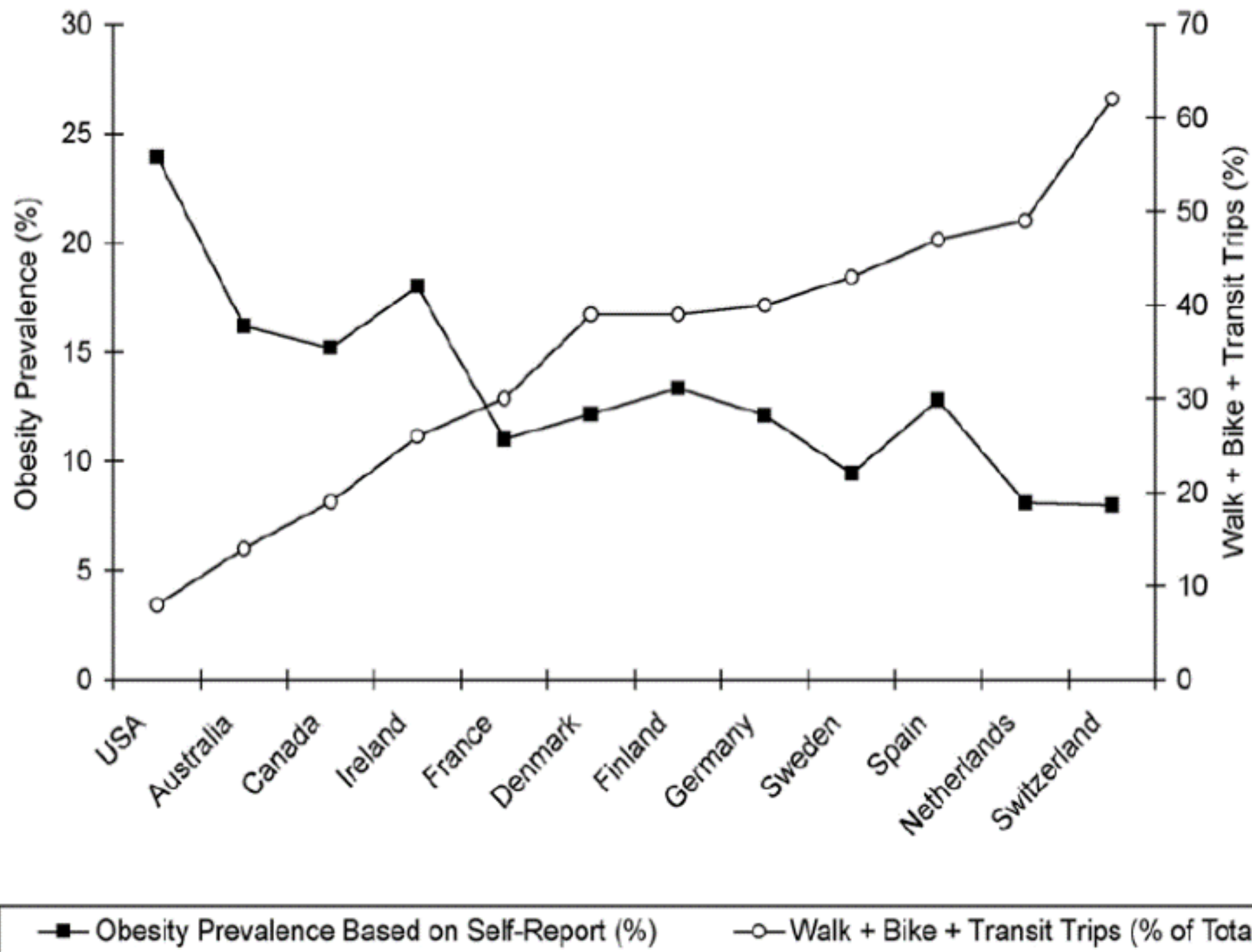
SP Sustainable Prosperity

For more data and more reports, visit thecostofsprawl.com
Data based on Halifax Regional Municipality

Outcomes of Sustainable, Resilient, Healthy Communities / *Happy Cities*

- Clean air
- Increase community resilience
- Saves on infrastructure costs
- Enhance health and wellbeing (saving \$\$)

Source: Bassett et al, 2008, Walking, Cycling, and Obesity Rates in Europe, North America, and Australia. *Journal of Physical Activity & Health* 5 (6):795-814.



Cities

Resilient cities

Cities with physically active residents more productive as well as healthier

Increasing amount of green space and promoting walking, cycling and use of public transport has significant economic benefits, study concludes

<https://www.theguardian.com/cities/2015/jun/09/cities-physically-active-residents-more-productive-healthier-walking-cycling-economic-benefits>



10k 26

Peter Walker

@peterwalker99

Tuesday 9 June 2015

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 Te Whare Wānanga o Waitaha
 CHRISTCHURCH NEW ZEALAND



Advertisement



Ministry of Transport
 TE MANATŪ WAKA

Inner-city living makes for healthier, happier people, study finds

Residents of higher-density areas are more active, more socially engaged – and less obese – than people who live in the sprawl of suburbia



5273 1,194

Reuters

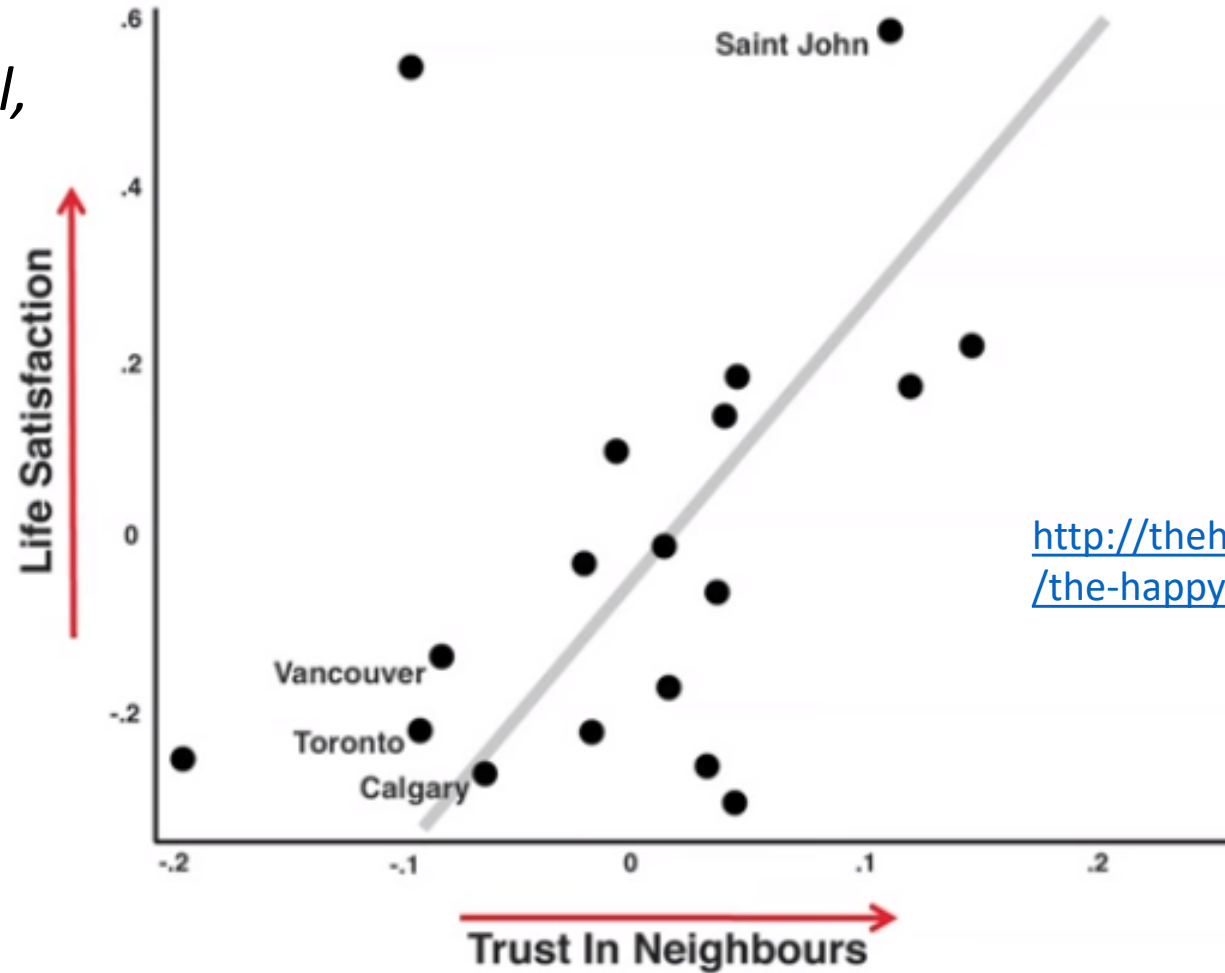
Friday 6 October 2017
01.13 BST



trusting cities = happier cities

“People who live in monofunctional, car-dependent neighborhoods outside of urban centers are much less trusting of other people than people who live in walkable neighborhoods where housing is mixed with shops, services, and places to work.”

- Happy City

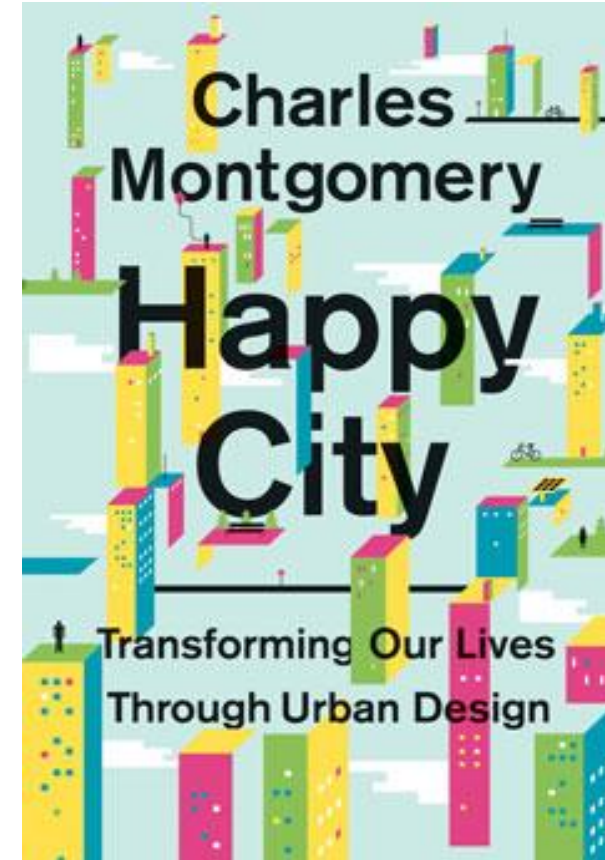


<http://thehappycity.com/project/the-happy-city-experiment/>

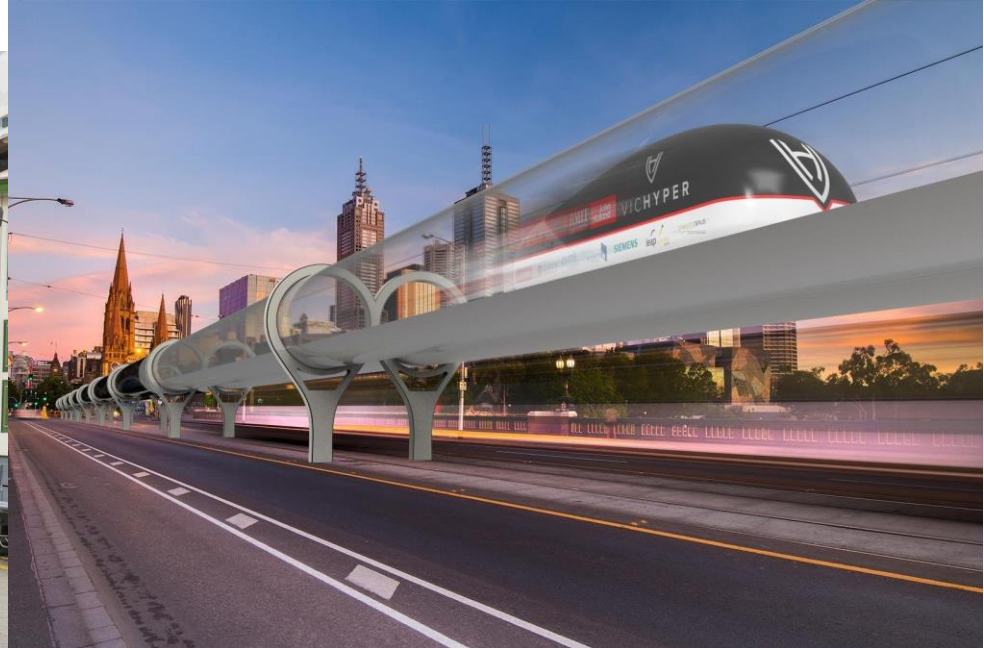
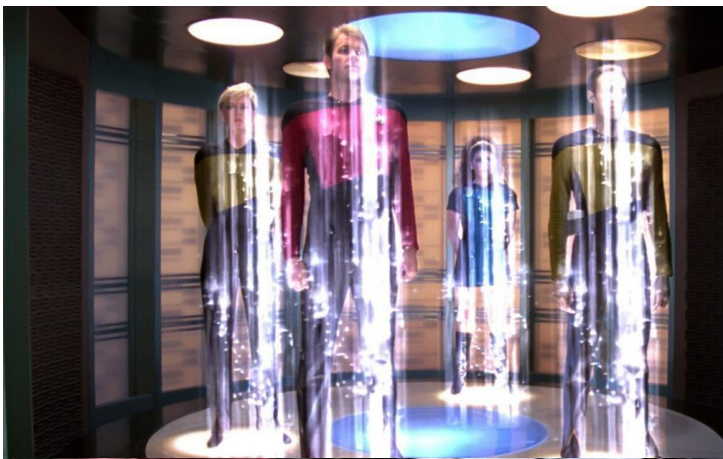
courtesy John F Helliwell

Happy Cities

- *psychotic disorders, including schizophrenia, are most common in neighbourhoods with the thinnest social networks*
- *the more connected we are with family and community, the less likely we are to experience colds, heart attacks, strokes, cancer and depression*
- *connected people sleep better at night. They are more able to tackle adversity. They live longer. They consistently report being happier*
- *low-density sprawl puts residents at greater risk of arthritis, chronic lung disease, digestive problems, headaches & urinary tract infections*



The future?



Fifth Element (1997)



Total Recall (1990)



(2012)



Wall-E (2008)



Black Panther (2018)



Summary

- Sustainable, Resilient, Healthy Communities have:
 - Diversity of housing types
 - Low or no fences
 - Green (and blue) space
 - Close proximity to facilities e.g. schools, shops, job
 - Good public transport
 - Low volume / slow speed traffic
 - Physical *activityable* (walk, bike) environments/infrastructure
- All plannable?

Final thoughts

- Place (geography) and streetscape affect communities (and health and wellbeing)
- Social infrastructure important for enhancing community and improving health (e.g. *bumping* and *gathering spaces*)
 - Design into / allow in communities
- Value local community role of existing *gathering places* e.g. schools, churches
- Multiple co-benefits of investing in local community esp. health
- Importance of local access to amenity and social infrastructure
 - “If you have to get in your car it’s not local”
- We can **plan** Sustainable, Resilient, Healthy Communities
 - They don’t (usually) happen by accident



If you plan cities for cars & traffic, you get cars & traffic. If you plan for people & places, you get people & places - Fred Kent

Prof Simon Kingham

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